

**STATE FOREST LAND
ENVIRONMENTAL CHECKLIST**

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at <http://www.dnr.wa.gov> under "SEPA Center."* These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

Timber Sale Name: **Highlander**

Agreement #: **30-076532**

2. Name of applicant:

Washington State Department of Natural Resources

3. Address and phone number of applicant and contact person:

**Department of Natural Resources
Bud Clark
601 Bond Road
PO Box 280
Castle Rock, WA 98611-0280
(360) 577-2025**

4. Date checklist prepared:

May 17, 2004

5. Agency requesting checklist:

Washington State Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

- a. *Auction Date:* **2005**
b. *Planned contract end date (but may be extended):* **2006**
c. *Phasing:* **Does Not Apply**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Timber Sale:

- a. *Site preparation:* **Competing vegetation may be sprayed during the first summer following harvest, in accordance with the Final Forest Resource Plan (July 1992) and the Final Habitat Conservation Plan (September 1997).**
b. *Regeneration Method:* **The site will be replanted with Douglas-fir seedlings after harvest. Additional species such as red alder, bigleaf maple, grand fir, and western redcedar are expected to naturally regenerate, though the subsequent plantation will be predominantly Douglas-fir .**

- c. **Vegetation Management:** One or more additional treatments may be needed to control competing vegetation in the subsequent plantation within ten to fifteen years of the initial harvest. Such treatments may consist of herbicide application or hand slashing, in accordance with the Final Forest Resource Plan (July 1992) and the Final Habitat Conservation Plan (September 1997).
- d. **Thinning:** It is expected that either a pre-commercial thinning or early commercial thinning will be necessary within forty years of the initial harvest, depending on the density of the subsequent plantation.

Roads: Roads remaining at the termination of the sale will be used for future forest management activities. Road maintenance and periodic ditch and culvert cleanout will occur as necessary.

Rock Pits and/or Sale: None.

Other: Firewood salvage may occur after logging. Landing slash piles may be burned after the harvest is completed.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒ 303 (d) – listed water body in WAU: ☒temp ☐sediment ☐completed TMDL (total maximum daily load):
☐Landscape plan:
☐Watershed analysis:
☐Interdisciplinary team (ID Team) report:
☒Road design plan: Available at Pacific Cascade Region Office.
☒Wildlife report: Available at Pacific Cascade Region Office.
☐Geotechnical report:
☐Other specialist report(s):
☐Memorandum of understanding (sportsmen’s groups, neighborhood associations, tribes, etc.):
☐Rock pit plan:
☒Other: Final Forest Resources Plan (July 1992); Final Habitat Conservation Plan (September 1997); State Soil Survey; Marbled Murrelet Habitat Reclassification Map; ESA Listed Salmonid Map from Forest Practices; Forestry Handbook (August 1999) with updates.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

☒HPA: Log number ST-D9199-04 ☒Burning permit: (if landing piles are burned) ☐Shoreline permit ☒Incidental take permit: 1168 and PRT-812521 ☒FPA # ☐Other:

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

- a. Complete proposal description:

The Highlander Timber Sale is a two-unit even-age harvest with leave trees. The total size of the proposal area is 80 acres, which consists of 53 net harvest acres, 23 acres of Riparian and Wetland Management Zones (RMZs and WMZs), and 4 acres of leave trees. Leave trees, RMZs, and WMZs will remain within the proposal area. The two harvest units are separated by two type 3 streams, which merge forming one stream and then empty into an unnamed type A wetland at the northern border of the proposal. RMZs and WMZs are delineated along these waters and average 175 feet wide. The sale is located in Sections 1, 2, and 11, Township 15 North, Range 02 West, W.M. Unit 1 is approximately 47 acres (including 3 acres of leave trees) and Unit 2 is approximately 10 acres (including 1 acre of leave trees). Approximately 7% of the original stand will remain as leave trees in both harvest units. There will be 2,679 feet of new road construction 7,245 feet of road reconstruction, 661 feet of road abandonment, and 300 feet of road deactivation.

- b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

Pre-harvest description: The plant association is western hemlock/sword fern. Both units contain mixed stands of Douglas-fir, western redcedar, western hemlock, grand fir, red alder, and big leaf maple. Both stands are approximately 55- to 75-years old. The understory is primarily swordfern, vine maple, elderberry and salmonberry. Salal, huckleberry, skunk cabbage, and devil’s club are also present.

Type of harvest: Even-aged harvest with leave trees. Harvest systems will include both cable and shovel logging methods.

Overall unit objectives: Harvest objectives are to provide revenue for trust beneficiaries through sustainable forest management while meeting the obligations of Forest Practices rules and the DNR’s HCP. Specific objectives are to harvest the stand while protecting streams (water quality and fish habitat), provide retention trees, and minimize soil disturbance.

- c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		2,679	1.3	0
Reconstruction		7,245		0
Abandonment		661	0	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	8			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. (See timber sale map. See also color landscape/WAU map on the DNR website <http://www.dnr.wa.gov> under “SEPA Center.”)

a. Legal description:

Sections 1, 2 and 11, Township 15 North, Range 02 West, W.M.

b. Distance and direction from nearest town (include road names):

The timber sale area is located approximately 6 road miles north of Centralia, Washington in the DNR’s Smith Ranch Block. From I-5, take exit 88 onto Old Highway 99. Travel east 7.5 miles and turn right onto SR-507 just before the town of Tenino. Travel 4.9 miles through the town of Buccoda and turn right on the S-230 road. The proposal is located approximately 0.6 miles north down the S-230 road.

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website <http://www.dnr.wa.gov> under “ SEPA Center.”)

WAU Name	WAU Acres	Proposal Acres
SKOOKUMCHUCK, LOWER	46,858	57 harvest acres

The sub-basin has not been formally identified; therefore, sub-basin acreage is unknown.

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website <http://www.dnr.wa.gov> under “SEPA Center” for a broader landscape perspective.)

This proposal is located within the Lower Skookumchuck WAU. Agriculture and home sites are located in the valleys near the major streams with some home sites located in the uplands. There appears to be a recent trend towards increasing conversion of agriculture and forest lands to home sites at lower to mid-elevations. The uplands are primarily managed for timber production. Ownership includes large industrial forests, small private forests, and DNR managed forests. Forest stands within the WAU appear to be almost exclusively second and third growth stands. The number of Forest Practices shown on the WAU map (referenced above on the DNR website) along with observations within the WAU indicates that timber stands are intensively managed on relatively short rotations. Management includes regeneration harvests, thinnings, and partial cuts.

The following table is an estimated summary of past and future activity on DNR-managed land and privately-managed land in the WAU (information is based off of Forest Practices applications that have been approved in the last seven years as of May 17, 2004 compiled by the Department’s GIS database). No attempt was made to predict future timber harvest on private ownerships within the WAU. The source of this information only provided the acreage on the WAU level. Approximately 58% of the land managed by the DNR in the Lower Skookumchuck WAU is covered with vegetation greater than 25-years-old.

Lower Skookumchuck WAU	WAU ACRES	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	PROPOSED EVEN-AGED HARVEST IN THE FUTURE (FY 2004/2005)	PROPOSED UNEVEN-AGED HARVEST IN THE FUTURE (FY 2004/2005)
DNR MANAGED LAND	8,340 (17%)	1015	105	108	0
PRIVATE OWNERSHIP	38,518	3184	634	UNKNOWN	UNKNOWN
TOTAL	46,858	4199	739	UNKNOWN	UNKNOWN

The DNR has an HCP agreement with the federal government concerning threatened and endangered species and their habitats, which requires the Department to manage landscapes in a conservative manner. This agreement substantially helps the Department to mitigate for harmful cumulative effects related to its management activities. The HCP is designed to protect and promote fish and wildlife species and their habitats over a broad regional area. The applicable HCP strategies incorporated into this proposal are as follows:

- Retaining RMZs averaging 175 feet wide along two type 3 streams.
- Retaining WMZs averaging 175 feet wide along all sides of a type A wetland adjacent to this proposal.
- Analyzing, designing, and constructing a road system that minimizes effects on the environment.
- Retaining an average of 8 reserve and retention trees per acre scattered and clumped through out the units.

Retaining RMZs and WMZs will help maintain water quality, stream bank integrity, and stream temperature. They will also provide LOD recruitment and habitat for riparian obligate species. Furthermore, the trees within these zones will develop older forest characteristics that (in combination with other strategies) will help support older forest dependant wildlife populations. Finally, road system analysis and design required under the HCP and the Forest Practices RMAP process will improve roads and minimize road impacts on the environment. The road maintenance plan analysis required under the Forest Practices RMAP process in the Smith Ranch Block was completed in 2004. Road improvement projects identified in the maintenance plan will likely begin in the near future.

Downstream segments of the Skookumchuck River are on the 303(d) list for ph, temperature, and fecal coliform. Shade from trees in the RMZs, WMZs, and the remaining stand should be adequate to maintain stream temperature. Ph and fecal coliform levels should not be affected by this proposal.

This proposal is completely surrounded by private land. Douglas-fir plantations to the north, west, south, and east are approximately 2, 10, 15 and 25 years old, respectively. A portion of the northern boundary of Unit 1 abuts a stand of timber approximately the same age of that in this proposal.

In addition to mitigation efforts previously mentioned, which will be incorporated into this proposal under the HCP and Forest Practices RMAP process, DNR will include contract language in this proposal to meet legal requirements of Forest Practices and the Department of Ecology regarding sediment delivery to streams. This language addresses timing of operations, restrictions on impacts to soils (compaction/rutting), and requirements for sediment control devices and techniques.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☒Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Lower Skookumchuck WAU generally consists of hilly topography between 200 and 1,300 feet in elevation. There are some slopes over 65%, but most vary between 25% and 50%. The WAU averages 45 inches of rainfall per year. The major timber type is Douglas-fir. The Skookumchuck River flows from the Skookumchuck Reservoir at the southeast corner of the WAU. The WAU is located in the western hemlock vegetation zone.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

This location of this proposal is consistent with the general description of the WAU.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope on the site is approximately 55%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
4848	SLT.CLY.LOAM	20-40	41	LOW	MEDIUM
4847	SLT.CLY.LOAM	5-20	16	INSIGNIFICANT	MEDIUM
6187	SLT.CLY.LOAM	3-8	<1	INSIGNIFICANT	MEDIUM

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

There are no visible surface indications or known history of unstable soils in the immediate vicinity of the proposed activity. There are no potentially unstable slopes or landforms as defined by Forest Practices in the immediate vicinity of the proposed activity.

2) Is there evidence of natural slope failures in the sub-basin(s)?

☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:

There is evidence of natural slope failures in the Lower Skookumchuck WAU sub-basins. Slope failures are found primarily along streams in inner gorges and associated with soil creep and other natural geomorphic processes. Most of these areas are located in the upper portions of the WAU. This proposal is located in the lower portions of the WAU where the terrain consists of gentler slopes with fewer natural slope failures.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?

☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:

Associated management activity:

There are slope failures associated with road construction within the Lower Skookumchuck WAU sub-basins. These are primarily on older roads constructed without adequate drainage structures on steep mid-slopes. The nearest known site is approximately two miles away along an old road that was constructed with side-cast material on a steep inner-gorge slope. Adequate drainage was not maintained and the side-cast material was slumping away. The road was abandoned approximately 5 years ago to stabilize the slope and stop sediment delivery into the adjacent stream.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?

☒No ☐Yes, describe similarities between the conditions and activities on these sites:

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

See B.1.h.

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: 1.3 Approx. acreage new landings: <1 Fill source:

Filling will occur over new culvert installations during road construction and reconstruction. Material will be native soil in the immediate vicinity of the installation. Ballast and surface rock will be from an approved commercial source. Fill quantities are estimated to average less than 20 cubic yards per culvert.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, minimal erosion may occur as the result of road maintenance, road use, and logging operations.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 1 percent.

- h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Road construction will be on ridges and will not be allowed between September 30 and May 1 unless authorized in writing by the Contract Administrator. Hauling of wood products shall be suspended if rutting exceeds six inches on roads. Cut and fill slopes will be re-vegetated. Grass seed and hay placed on exposed soil will help reduce the potential for erosion and sediment delivery to waters. Use of adequate road construction techniques will reduce the potential for slope failures associated with roads. Sediment traps will be placed along roads where needed to reduce the potential for sediment delivery at stream crossings. Surface runoff will be collected in well-defined ditches that are clear of debris and fully functional. Runoff will flow into culverts or ditch outs that will be placed at a minimum of every 40 feet change in elevation. This water will then be discharged onto the forest floor for filtration.

Landings and a total of 456 retention and reserve trees will be located to help divert felling and yarding away from flowing waters. Shovel logging and tracked equipment use will not be permitted from September 30 to May 1 unless authorized by the Contract Administrator. Lead end suspension will be required on all cable settings. Yarding may be suspended at the discretion of the Contract Administrator when soil rutting exceeds four inches as measured from the natural ground line when there is potential for damage to any public resource. If yarding is suspended, the Contract Administrator must be assured that future harvest operations will not potentially damage any public resource. To reduce potential damage to the earth, the Contract Administrator may require water bars to be constructed by hand and grass seed to be placed on exposed soils. Any and/or all operation(s) of this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the possibility of sediment being delivered to any flowing water tributary to any fish-bearing stream.

Riparian Management Zones averaging 175 feet wide along two type 3 streams, Wetland Management Zones averaging 175 feet wide adjacent to a type A wetland, and leave trees left clumped and scattered will help reduce the potential for sediment delivery, slope movement, and channel migration due to sediment build up. Within Unit 2, approximately 50 leave trees will be left in the southern portion of the unit (south of the most southern type 5 stream) in order to prevent equipment from entering the type 5 stream and transporting logs over it. The stream has steep, incised channels approximately 20 feet deep and 50 percent in slope. While this area does not contain unstable soils, operating within the channel would likely create deep ruts that will funnel sediment to the stream.

2. **Air**

- a. What types of emissions to the air would result from the proposal (i.e., dust from truck traffic, rock mining, crushing or hauling, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minimal amounts of engine exhaust from logging equipment, log trucks, and automobiles will be emitted as a result of this proposal. If landing slash is burned, smoke will be emitted into the air.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Landing slash may be burned in accordance with the State's Smoke Management Program. A burn permit will be obtained before burning occurs.

3. **Water**

- a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map and forest practice base maps.)*

a) *Downstream water bodies:*

All streams within the proposal and some streams adjacent to the proposal have been verified and typed using the Forest Practices Emergency Water Typing Rules, dated March 20, 2000. The two harvest units are separated by two type 3 streams, which merge forming one stream and then empty into an unnamed type A wetland at the northern border of this proposal. There are a total of three type 5 streams inside the harvest units. All these waters empty into the Skookumchuck River in the vicinity of Frost Prairie.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Stream	3	2	175
Stream	5	3	0
Wetland	A	1	175

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

Two type 3 streams and an associated wetland are protected by 175-foot-wide RMZs and WMZs delineated along all sides within or adjacent to the sale, protecting approximately 23 acres of habitat. Three type 5 streams will be protected during harvest activities by 30-foot-wide Equipment Limitation Zones as required by Forest Practices rules.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.

☐No ☒Yes (See RMZ/WMZ table above and timber sale map.)

Description (include culverts):

Timber will be cut 175 feet away from type 3 streams and associated type A wetland areas. Timber falling and bucking will occur immediately adjacent to and possibly within type 5 streams in the proposal. Landings and leave trees are located in areas where falling and yarding will be away from all flowing streams. Tail-hold lines for yarding cables may be suspended over all streams to facilitate logging operations. Two 18-inch plastic culverts will be placed in two type 5 streams during construction and reconstruction of the S-251 road. One will be removed during road abandonment and the other will be removed during road deactivation.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

As much as ten cubic yards of material may be placed in the two above-mentioned type 5 streams during culvert installation. This material will be native soil from on site and will be used to stabilize the culverts. This material will then be removed and disposed of on site during road abandonment and deactivation.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. (Include diversions for fish-passage culvert installation.)

☒No ☐Yes, description:

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

☒No ☐Yes, describe location:

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

☒No ☐Yes, type and volume:

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Yes, some of the soils in the Lower Skookumchuck WAU are highly susceptible to soil erosion and/or to mass wasting. A small proportion of material eroded from areas disturbed during harvest could enter surface water. Some erosion may result from naturally occurring geomorphic processes. Erosion associated with roads will be avoided by proper maintenance and construction techniques. See B.1.h.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?

☐No ☒Yes, describe changes and possible causes:

There is evidence of changes of some channels in the Lower Skookumchuck WAU due to mass wasting and/or unusually high levels of precipitation. Changes appear as elevated stream beds, accelerated aggradations of sediment, and re-direction of small segments of streams.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?

☐No ☒Yes, explain:

This proposal should have little, if any, negative impacts on water quality. Except for two type 5 stream crossings on the S-251 road, all road work will occur on ridge tops well away from typed water. Road construction, shovel logging, and hauling of logs on the S-230, S-231, S-232, S-233, and S-251 roads will not be permitted from September 30 to May 1 unless authorized by the Contract Administrator. RMZs and WMZs will further reduce the likelihood of adverse impacts to water quality.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?

The Lower Skookumchuck WAU has an average of 5.8 miles of road per square mile. The miles of road per square mile in the sub-basin are unknown.

Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?

☒No ☐Yes, describe:

- 11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒No ☐Yes, approximate percent of WAU in significant ROS zone.
Approximate percent of sub-basin(s):

- 12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

- 13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐No ☒Yes, describe observations:

Within the Lower Skookumchuck WAU, channel changes appear to be primarily associated with accelerated sediment aggradations and stream channelization. The mass wasting described in B.1.d.2. above occurs during saturated soil conditions associated with peak flow events and can result in changes in channel morphology and in accelerated sediment aggradations in down stream reaches. Lack of large woody debris can contribute to stream channelization during peak flow events.

- 14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing, duration, and amount of water in a peak flow event. Flow rates may increase slightly during high and low flow periods due to decreased transpiration and interception. However, the proposal size, location (below the rain-on-snow zone), 175-foot-wide RMZs and WMZs, minimal ground disturbance, and maintenance of ground cover vegetation should avoid contributing to increased peak flow. See B.3.a.16.

- 15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☐No ☒Yes, possible impacts:

Multiple agricultural and residential surface water rights exist in or near this proposal. The nearest one is a spring that feeds into the type A wetland immediately adjacent to this proposal in Section 1, Township 15 North, Range 02 West, W.M. Several private wells can also be found approximately one half mile south in Sections 11 and 12, Township 15, North, Range 02 West, W.M. RMZs and WMZs averaging 175 feet wide left along two type 3 streams and a type A wetland will reduce the potential for changes in surface water amounts, timing, or movements as a result of this proposal. No timber harvest will occur in the wetland, Wetland Management Zones, and Riparian Management Zones.

- 16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

The following measures should reduce peak flow flooding impacts:

- **placing adequate numbers of culverts and ditchouts to discharge ditch water onto the forest floor,**
- **retaining 175-foot-wide RMZs and WMZs along two type 3 streams and one type A wetland that will help maintain bank stability and provide large organic debris (LOD), and**
- **keeping unit size to 100 acres or less.**

b. **Ground Water:**

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Insignificant amounts of oil and other lubricants could be inadvertently discharged as a result of heavy equipment use. Any spills will be contained and cleaned up. No lubricants will be disposed of on site (See B. 7. a. 2.).

- 3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☐No ☒Yes, describe:

There are several private wells approximately one half mile south in Section 12 of Township 15 North, Range 02 West, W.M. and Section 36 of Township 16 North, Range 02 West, W.M. This proposal should have no significant impact on these resources. See B.1.h., B.1.5.d, and B.3.a.1.c.

- a) *Note protection measures, if any.*

No specific protection measures were incorporated into this proposal to protect these resources beyond those described in B.1.h., B.1.5.d, and B.3.a.1.c.

- c. Water Runoff (including storm water):
- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
- Surface runoff from the roads will be collected in ditches and discharged though culverts and ditch-outs to the forest floor for natural filtration. Sediment ponds and/or silt fences will be used to remove silt from ditch water, where necessary.**
- 2) Could waste materials enter ground or surface waters? If so, generally describe.
- Some logging slash may enter the three type 5 streams within the harvest units. Insignificant amounts of oil and other lubricants could be inadvertently discharged during heavy equipment use (See B. 7. a. 2.).**
- a) Note protection measures, if any.
- (See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)**
- d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

Cross drains will be added to new and existing roads to return water to the forest floor prior to entering water courses. New roads have been located in stable areas and away from water courses to minimize the potential for sediment delivery and interception of subsurface flow. RMZs and WMZs will filter sediment and retain riparian function within and adjacent to the proposal area. Approximately 661 feet of the S-251 road will be abandoned and an additional 300 feet will be deactivated to minimize future impacts to two type 5 streams. See also B.3.a.16. and B.3.a.2 for additional erosion control measures.

4. Plants

- a. Check or circle types of vegetation found on the site:
- ☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☐cottonwood, ☐western larch, ☐birch, ☐other:
☒evergreen tree: ☒Douglas fir, ☒grand fir, ☐Pacific silver fir, ☐ponderosa pine, ☐lodgepole pine,
☐western hemlock, ☐mountain hemlock, ☐Englemann spruce, ☐Sitka spruce,
☐red cedar, ☐yellow cedar, ☐other:
☒shrubs: ☒huckleberry, ☒salmonberry, ☒salal, ☒other: **vine maple, elderberry**
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒devil's club, ☒other: **sedges**
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☒other types of vegetation: **sword fern**
☐plant communities of concern:
- b. What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)
- 1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: <http://www.dnr.wa.gov> under "SEPA Center.")
- This proposal is completely surrounded by private land. Even-aged Douglas-fir plantations to the north, west, south, and east and are approximately 2, 10, 15 and 25 years old, respectively. A portion of the northern boundary of Unit 1 abuts a stand of timber roughly the same age of that in this proposal.**
- 2) Retention tree plan:
- Approximately 93% of the overstory vegetation will be removed. No vegetation will be altered or removed from RMZs or WMZs. An average of eight leave trees per acre were left clumped and scattered throughout both units, for a total of 376 in Unit 1 and 80 in Unit 2 for a grand total of 456 for the entire sale. Large conifers with broken and deformed tops were chosen as leave trees wherever possible. Within Unit 1, a clumped and scattered leave tree design was implemented. The majority of the leave trees were designated towards the interior of the unit, allowing for road and landing locations. Within Unit 2, approximately 50 leave trees will be left in the southern portion of the unit (south of the most southern type 5 stream) in order to prevent equipment from entering the type 5 stream and transporting logs over it. The stream has steep, incised channels approximately 20 feet deep and 50 percent in slope. While this area does not contain unstable soils, operating within the channel would likely create deep ruts that will funnel sediment to the stream. The remainder of the leave trees will be scattered throughout the northern portion of the unit.**
- c. List threatened or endangered plant species known to be on or near the site.
- | TSU Number | FMU_ID | Common Name | Federal Listing Status | WA State Listing Status |
|-------------------------------|--------|-------------|------------------------|-------------------------|
| None Found in Database Search | | | | |
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
- Both units will be replanted and/or naturally re-vegetated. A total of 456 leave trees will also be left on site. Though disturbed, native plants such as ferns, salal, huckleberry, vine maple, elderberry, and salmonberry will remain on site and will thrive in the future plantation. Plantation maintenance may reduce the prevalence of such species.**

5. Animal

- a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☒heron, ☐eagle, ☒songbirds, ☐pigeon, ☒other: **grouse, mallard duck**
mammals: ☒deer, ☒bear, ☐elk, ☐beaver, ☐other:
fish: ☐bass, ☒salmon, ☒trout, ☐herring, ☐shellfish, ☒other: **sculpin**
unique habitats: ☐talus slopes, ☐caves, ☐cliffs, ☐oak woodlands, ☐balds, ☐mineral springs

- b. List any threatened or endangered species known to be on or near the site (*include federal- and state-listed species*).

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
1	42450	BULL TROUT	THREATENED	CANDIDATE
2	42451	BULL TROUT	THREATENED	CANDIDATE

- c. Is the site part of a migration route? If so, explain.
☒Pacific flyway ☐Other migration route: Explain if any boxes checked:

This proposal is located in the Pacific flyway, which is part of the Pacific Northwest forests. Many Neotropical birds are closely associated with riparian areas, cliffs, snags and structurally unique trees in these forests. Migratory waterfowl also use the Pacific flyway. The adjacent type A wetland contains habitat often used for resting and feeding by migratory waterfowl. Riparian areas and special habitats are protected through implementation of DNR’s Habitat Conservation Plan.

- d. Proposed measures to preserve or enhance wildlife, if any:

Leave trees serve as perches and nest sites. Trees left along waters protect water quality and serve as shelter for wildlife. Clumped leave trees will provide additional habitat for wildlife. Large diameter trees that have large limbs, open crowns, and broken tops are being left to preserve current habitat and provide future habitat opportunities for many species. These leave trees will become future snags and legacy trees for future generations. Large woody material such as large logs or logging slash will be scattered or piled throughout the proposal to help further enhance habitat. WMZs and RMZs averaging 175 feet wide along two type 3 streams and a type A wetland will help maintain water quality, provide corridors for wildlife, and retain habitat for fish, reptiles, and other riparian obligate species.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

See B.5d. above.

Species/Habitat: **bull trout**

Protection Measures: **Streams characterized as having bull trout habitat have been bounded out of the harvest area. RMZs averaging 175 feet wide adjacent to two type 3 streams will maintain habitat for bull trout and other fish.**

6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project’s energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Does not apply.

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal hazard incidental to operating heavy machinery such as the risk of fire or small amounts of oil and other lubricants accidentally discharged as a result of heavy equipment use.

1) Describe special emergency services that might be required.

There are no special emergency services required at this time. Pump trucks and/or pump trailers will be required on site during fire season.

2) Proposed measures to reduce or control environmental health hazards, if any:

No oil or lubricants will be disposed of on site. Fire tools and equipment will be kept on site during fire season. The cessation of operations may occur during periods when the risk of fire is unacceptably high. In the event of a lubricant spill, the purchaser will contact DNR and the Department of Ecology.

- b. Noise
- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
Does not apply.
 - 2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.
Minimal noise levels associated with logging operations and truck traffic. No long-term impacts.
 - 3) Proposed measures to reduce or control noise impacts, if any:
None.

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties? (*Site includes the complete proposal, e.g. rock pits and access roads.*)
Timber production and associated forest management activities.
- b. Has the site been used for agriculture? If so, describe.
No.
- c. Describe any structures on the site.
None.
- d. Will any structures be demolished? If so, what?
No.
- e. What is the current zoning classification of the site?
Forestry.
- f. What is the current comprehensive plan designation of the site?
Long-term forestry.
- g. If applicable, what is the current shoreline master program designation of the site?
Does not apply.
- h. Has any part of the site been classified as an “environmentally sensitive” area? If so, specify.
Does not apply.
- i. Approximately how many people would reside or work in the completed project?
Does not apply.
- j. Approximately how many people would the completed project displace?
Does not apply.
- k. Proposed measures to avoid or reduce displacement impacts, if any:
Does not apply.
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
This proposal has been laid out in accordance with the current DNR Forest Resource Plan (July 1992), Final HCP (September 1997), and current Forest Practices rules (as they apply). This proposal is consistent with current land use classifications.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
Does not apply.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
Does not apply.
- c. Proposed measures to reduce or control housing impacts, if any:
Does not apply.

10. **Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

- b. What views in the immediate vicinity would be altered or obstructed?

None.

- 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☒ *No* ☐ *Yes, viewing location:*
- 2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☒ *No* ☐ *Yes, scenic corridor name:*
- 3) *How will this proposal affect any views described in 1) or 2) above?*

Does not apply.

- c. Proposed measures to reduce or control aesthetic impacts, if any:

Leave trees left scattered and clumped throughout the proposal will reduce the visual impacts of the harvest. RMZs and WMZs will also remain within the proposal. The site will be replanted after harvest or naturally regenerated.

11. **Light and Glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply.

- c. What existing off-site sources of light or glare may affect your proposal?

Does not apply.

- d. Proposed measures to reduce or control light and glare impacts, if any:

Does not apply.

12. **Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity?

Dispersed informal recreation such as hunting, berry picking, sightseeing, etc.

- b. Would the proposed project displace any existing recreational uses? If so, describe:

Recreation will be temporarily displaced during logging operations in the timber harvest area.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. **Historic and Cultural Preservation**

- a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None have been identified.

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

Archeological/historical sites in Sections 11 and 12 of Township 15N, Range 2 West, W.M. were identified by the Planning and Tracking special concerns report. A telephone call to the Department of Community Development confirmed there are no conflicts.

- c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

Does not apply.

14. **Transportation**

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

This proposal will use forest roads and is accessed by 184th Avenue, 185th Avenue SE, and State Route 507.

- 1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?*

No.

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

- c. How many parking spaces would the completed project have? How many would the project eliminate?

Does not apply.

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

See A.11.

- 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*

This proposal will increase traffic by up to 30 small vehicle and log truck round trips per day but should not affect the overall transportation system in the area.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Up to 30 round trips per day could occur during road building and logging operations.

- g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. **Public Services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

Does not apply.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

Does not apply.

16. **Utilities**

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Does not apply.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed.

Does not apply.

C. **SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: Adrian C. Frank

Title: Forester 1

Date: May 17, 2004

Reviewed by: _____

Title: State Lands Assistant

Date: September 7, 2004